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MONTANA RESOURCE CONSERVATION PLAN 1981-1985

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Montana Department of Natural Resources and Conservation
Conservation Districts Division

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June 1981

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The Division acknowledges the guidance and support of the members of the Resources Conservation Advisory Council, who are named in the appendix.

Special thanks go to Carol Massman and Frank Culver of DNRC's Special Staff for their advice and cooperation. Susan Mohl typed the report, June Virag and Gene Pasini produced the graphics, and Dan Nelson designed and executed the cover. Gordon Taylor supervised production. Also contributing to the report were the staff of the Conservation Districts Division, Kay Maroney, Terry Wheeler, and Parham Hacker.

I. INTRODUCTION

This plan is a natural resource management plan for the Conservation Districts Division (CDD) of the Department of Natural Resources and Conservation, and addresses the major concerns and problems identified by the people of Montana's conservation districts (CDs) on private land. It is not to be mistaken for a total natural resource plan for the state of Montana. It does, however, call for cooperation with state and federal agencies that plan for and manage public lands. In many cases, cooperative agreements are in effect between the Conservation Districts and these agencies. Therefore the Conservation Districts Division expects that the agencies will take note of this plan in managing their lands.

Approach

In 1978 CDs were asked to help identify the major resource concerns and problems for their districts. Each Soil Conservation Service (SCS) field office district conservationist entered the data for each CD on a worksheet (Appendix F). This was done with the cooperation and direction of the conservation district supervisors through public participation. This process involved holding meetings such as with Kiwanis clubs and Agricultural Stabilization and Conservation committees. Questionnaires were the main method used to gather the information; they were either handed out at the meetings or mailed. Meeting attendance and questionnaire tallies are shown in Table 1.

Table I. Meetings, Attendance, and Distribution of Questionnaires.

	NUMBER OF MEETINGS			ATTENDANCE			USE OF QUESTIONNAIRES	
SCS WORK AREA	RCA	Other	Total	RCA	Other	Total	Handed Out	Returned
1	17	9	26	230	88	318	1836	275
2	27	26	53	466	318	784	3305	166
3	28	25	53	487	357	844	6311	393
4	14	9	23	143	55	198	2573	282
5	33	46	79	474	541	1015	5680	752
6	18	24	42	102	243	345	3315	456
SCS State Off.	11	7	18	90	157	228	0	0
TOTAL	148	146	294	1992	1759	3732	23,020	2324

After the data were entered on worksheets for each CD, the information was sent to the SCS state office, which then recorded it for all the CDs. The results are shown as Montanans' major concerns in figure 1, and Montanans' major concerns by conservation district in figure 2.

Of the 25 resource concerns that were evaluated, 18 were indicated by most CDs as major problems after a survey of current long-range CD plans written since 1978. These concerns have traditionally fallen under the CDs jurisdiction on the local level. So that the Conservation Districts Division can be most helpful to the CDs, these problems are the ones considered in this plan.

The objectives were set for each concern, and are shown in the work plan on page 57 , together with the tasks and the projected hours and costs required by each one.

Figure 1
Montanans' Major Concerns

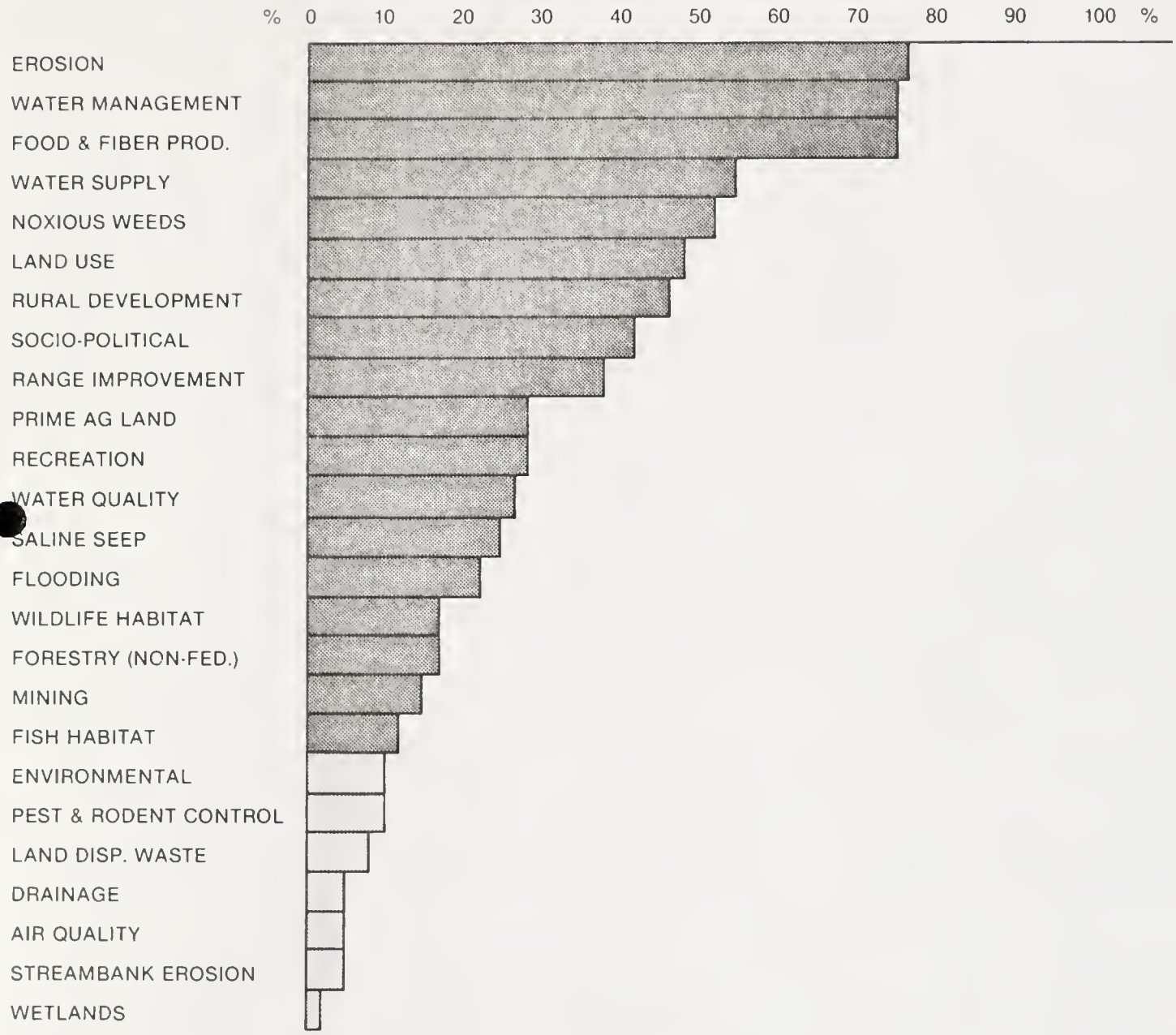

Figure 2
Montanans' Major Concerns by Conservation District

CONSERVATION DISTRICTS (CD) ↘ / CONCERNS →	SOIL EROSION	IRRIGATION WATER MANAGEMENT	FOOD & FIBER PRODUCTION	WATER SUPPLY	NOXIOUS WEEDS*	LAND USE	RURAL DEVELOPMENT	SOCIO-POLITICAL	NATIVE RANGELANDS IMPROVEMENT	PRIME, UNIQUE & IMPORTANT FARMLANDS	RECREATION	WATER QUALITY	SALINE SEEP*	FLOODING	WILDLIFE HABITAT	FORESTRY (NON-FEDERAL)	MINING	FISH HABITAT		Environmental	Pest & Rodent Control	Land Disposal of Organic Wastes	Drainage	Air Quality	Streambank Erosion	Wetlands
BEAVERHEAD CD	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•		•		•			•
BIG HORN CD	•	•	•	•		•	•	•		•				•								•			•
BIG SANDY CD	•	•	•										•												
BITTERROOT CD		•	•	•		•	•	•		•	•	•			•	•		•		•		•			
BLAINE COUNTY CD	•	•											•										•		
BROADWATER CD	•	•	•		•																				
CARBON CD	•			•		•		•		•															
CARTER COUNTY CD	•		•		•				•																
CASCADE COUNTY CD	•		•			•			•		•	•	•	•	•										
CHOTEAU COUNTY CD	•	•	•		•								•												
CULBERTSON - BAINVILLE CD	•	•	•	•		•	•				•														
CUSTER COUNTY CD	•	•	•	•		•	•	•		•		•					•					•			
DANIELS COUNTY CD	•		•	•					•		•														
DAWSON COUNTY CD	•	•	•	•	•	•			•		•		•				•								
DEER LODGE VALLEY CD		•	•	•	•			•	•								•				•				
EASTERN SANDERS COUNTY CD		•		•	•				•															•	
FERGUS COUNTY CD	•	•	•	•	•									•											
FLATHEAD CD	•	•	•	•	•		•	•				•									•				
FROID CD	•		•			•	•				•														
GALLATIN CD	•	•	•			•		•				•		•											
GARFIELD COUNTY CD	•	•								•		•													
GLACIER COUNTY CD			•	•				•			•														
GRANITE CD	•	•	•								•					•				•	•				
GREEN MOUNTAIN CD					•	•	•								•	•									
HILL COUNTY CD	•				•								•												
JEFFERSON VALLEY CD	•	•	•	•	•	•	•	•	•	•		•		•			•	•		•					
JUDITH BASIN CD	•	•		•	•	•	•		•		•													•	
LAKE COUNTY CD		•			•	•			•	•															
LEWIS & CLARK COUNTY CD	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•		•							
LIBERTY COUNTY CD	•		•		•				•			•	•		•										
LINCOLN CD			•				•	•								•						•			
LITTLE BEAVER CD	•			•		•							•												

*These concerns were not listed on pre-printed worksheets, but Conservation Districts felt they were major concerns in their areas. Each Conservation District was allowed only one of these "others". If saline seep and noxious weeds had been listed, more CD's may have named them a major concern.

CONSERVATION DISTRICTS (CD) ↓ / CONCERNS →	SOIL EROSION	IRRIGATION WATER MANAGEMENT	FOOD & FIBER PRODUCTION	WATER SUPPLY	NOXIOUS WEEDS*	LAND USE	RURAL DEVELOPMENT	SOCIO-POLITICAL	NATIVE RANGELANDS IMPROVEMENT	PRIME, UNIQUE & IMPORTANT FARMLANDS	RECREATION	WATER QUALITY	SALINE SEEP*	FLOODING	WILDLIFE HABITAT	FORESTRY (NON-FEDERAL)	MINING	FISH HABITAT		Environmental	Pest & Rodent Control	Land Disposal of Organic Wastes	Drainage	Air Quality	Streambank Erosion	Wetlands
LOWER MUSSELSHELL CD	•	•	•	•		•	•	•	•			•		•									•			
MADISON CD	•	•	•			•	•																			
MCCONE CD	•	•	•			•	•	•	•		•															
MEAGHER COUNTY CD	•	•		•	•											•				•						
MILE HIGH CD	•	•	•	•	•	•	•	•	•	•		•		•			•	•	•				•			
MINERAL COUNTY CD		•	•		•	•	•	•		•					•	•								•		
MISSOULA CD		•	•		•	•	•	•		•	•	•			•	•		•	•					•			
NORTH POWELL CD		•	•		•			•	•						•			•			•					
PARK CD	•	•	•	•	•	•	•		•		•					•										
PETROLEUM COUNTY CD	•	•	•	•	•									•												
PHILLIPS CD	•	•	•	•	•	•	•	•	•		•			•			•				•					
PONDERA COUNTY CD	•	•	•	•		•			•				•													
POWDER RIVER CD	•			•	•	•			•																	
PRAIRIE COUNTY CD	•	•		•	•	•		•	•	•																
RICHLAND COUNTY CD	•	•				•		•	•				•	•											•	
ROSEBUD CD	•	•	•	•	•		•	•		•							•									
RUBY VALLEY CD		•	•	•		•	•																		•	
SHERIDAN COUNTY CD	•												•		•											
STILLWATER CD		•	•	•		•	•					•					•									
SWEET GRASS COUNTY CD		•	•	•		•	•	•		•	•															
TETON CD		•	•					•					•													
TOOLE COUNTY CD	•		•		•		•		•				•													
TREASURE COUNTY CD	•	•	•	•		•	•			•		•														
UPPER MUSSELSHELL CD	•	•			•																		•			
VALLEY COUNTY CD	•	•		•			•	•			•	•	•	•												
WIBAUX CD	•			•									•													
YELLOWSTONE CD	•	•	•							•																
TOTAL	45	44	44	32	30	29	27	24	23	17	17	16	15	13	10	10	9	7		6	6	5	3	3	3	2

*These concerns were not listed on pre-printed worksheets, but Conservation Districts felt they were major concerns in their areas. Each Conservation District was allowed only one of these "others". If saline seep and noxious weeds had been listed, more CD's may have named them a major concern.

Planning Levels

Under the Resource Conservation Act (RCA PL 95-192), the federal government cooperates with state soil and water agencies and other appropriate state natural resource agencies, such as those concerned with forestry and fish and wildlife, and through conservation districts, with other local units of government and with land users, for the conservation of natural resources.

This law specifies that a continuing appraisal of the soil, water, and related resources must be made, a program developed for their conservation, and annual reports made to Congress, until the termination of the law on December 31, 1985.

Montana laws enacted in 1939 provide for resource conservation and establishment, administration, and operation of conservation districts. These districts are empowered to plan and carry out measures for the conservation of resources in their jurisdiction. Among the tools used to accomplish this goal is the cooperative agreement established by PL 95-192. These agreements ensure that resource appraisal continues, that plans responsive to local needs are developed, and that necessary action is carried out.

The Soil Conservation Service of the U.S. Department of Agriculture has entered into a joint agreement with the Conservation Districts Division of the Montana Department of Natural Resources and Conservation to develop a state plan designed to conserve, protect, and enhance soil, water, and related resources in Montana. A grant provided through the Resource Conservation Act funds the plan.

Sources and Status of Assistance and Funding Needs for Conservation Districts

Local Sources

Conservation District supervisors have authority through county commissioners to cause taxes to be levied not to exceed 1½ mill on all real property within the district to fund district programs.

Conservation districts have authority to charge fees for services they provide, but this has seldom been done except in special cases.

Historically districts operated equipment from which revenues were derived, but since private contractors now provide this service, revenue from this source cannot be expected.

State Sources

The state legislature in recent years has appropriated $100,000 a year, of which by law 75 percent is distributed according to acreage and 25 percent according to need. The 1981 Legislature is considering allocating ½ of 1 percent. of the coal tax to be made available to districts for projects based on need. This could amount to about $600,000 a year.

The state Renewable Resource Development fund is available for district-sponsored projects. Project proposals now before the 1981 Legislature, requested by districts, amount to over two million dollars.

The Extension Service provides excellent assistance in most districts.

Federal Sources

USDA SCS provides technical help to districts by cooperative agreement. In addition the GPCP, PL566, Watershed and Flood Prevention programs, Resource Conservation and Development, Plant Materials Center, Snow Survey, Inventory

and Monitoring, and Resource Conservation Act are valuable programs operated for districts. USDA Agricultural Stabilization and Conservation Service cost-sharing programs and USDA Farmers Home Administration soil and water loan programs are important to soil and water conservation.

All these sources contribute a considerable amount of funding to resource conservation and development in Montana, and, together with ranchers' and farmers' investments, they are currently in excess of $20 million a year. There is demand, opportunity, and need to expand these programs; if such expansion is not possible, with the help of the Resource Conservation Advisory Council, CDD will work vigorously to maintain present efforts.

II. Major Concerns Dealt with in the Plan

This section of the report discusses the 18 major concerns identified by conservation districts in the questionnaire circulated by Soil Conservation Service. Some of these issues presented problems to most districts. Others appeared to be regional, and resulted from conditions of climate, soil type, land use, and similar factors. Of those that appear on the chart (figure 1), some were considered as major concerns by so few respondents that they could not be given consideration as statewide concerns. One issue, that of environmental concerns, is addressed throughout this report as an integral part of discussions on water quality, fish and wildlife habitat, recreation, and related issues.

Each concern is dealt with separately, although some are so closely interrelated that the means of resolution may be identical. For every concern a brief statement of "situation" is presented that explains the current conditions relating to that concern. A summary statement called "Concerns" follows. Then the objectives that the CDs have proposed are listed, followed by a short rationale, giving the reason for thcir selection.

SOIL EROSION

Situation

Soil is being blown and washed from Montana's land at an alarming rate. Unprotected croplands are particularly vulnerable to this erosion. Grassland, range and forested lands that have a cover of vegetation are less susceptible. It is believed that 10 million acres of land in Montana have some degree of erosion.

Of Montana's 15 million acres of cropland, about 2 million acres is eroding at a rate above that considered tolerable--(sometimes called the "T" rate, which varies for different soil types). Of the state's 48 million acres of range, forest, and pasture, eight million acres or 16 percent of this resource, is losing soil at a rate above its tolerable limits. Natural events like spring runoff, severe thunderstorms, and wind are responsible for some erosion. But the changes that man has made to the land have increased the likelihood of massive erosion. Soil movement from cropland is a critical problem now facing farmers and ranchers in Montana (SCS 1979).

It is well established that wind is responsible for most of the erosion in Montana. An average of 417,000 acres were damaged each year between 1972 and 1978 in the state; of this, 385,000 acres were cropland. Montana's most critical wind erosion occurs in the north central "triangle" area, and extends easterly across the Highline. Other critical wind erosion areas are in east-central and south-central Montana (SCS 1979).

Many of the Conservation Districts have documented soil erosion problems in their district long-range plan. Missoula County CD is one such district and documents its soil erosion problem as follows. Missoula County has 15,387 acres of dry cropland; 1,162 acres (16%) are suffering from sheet, rill, and gully (water) erosion. Of the 34,293 acres of irrigated cropland, 1,858

acres (5.4%) are being eroded by water. There are 81,720 acres of rangeland in Missoula County and 2,118 acres (2.6%) have water erosion. Forestland in the county encompasses 1,158,327 acres and 5,214 acres (.45%) is affected by sheet, rill and gully erosion. There is little wind erosion in Missoula County. Dawson County CD, on the other hand, does have wind erosion problems identified in its long-range plan. Of Dawson County's 391,206 acres of dry cropland, 8,400 acres (2.1%) are being affected by severe wind erosion.

Amounts of erosion depend on several factors; soil erodibility, soil cover, amount of soil disturbance, snowmelt conditions, amount and intensity of rainfall, volume of runoff, distance between protected areas, wind speed, direction, and duration. There are areas of natural or geologic erosion that cannot be economically or effectively controlled permanently.

In the past, conflicts in management of the soil resource have resulted in poor use of the land. Often times landowners realize they have soil erosion problems, but not all landowners nor the public are fully aware of the effects and control of soil erosion. Often soil erosion controls only involve a change of management practices. Many solutions are possible: use of flexible, minimum, and no-till cropping systems to supplement crop-fallow systems, improved crop varieties for no-till crop systems, windbreaks and tall wheatgrass barriers, and willow plantings and alternate watering systems for streambank protection.

Concerns

Water and wind remove topsoil from Montana's lands and deposit it on other land or in lakes, reservoirs, streams, and rivers. Not only is the productive capacity of the land that has lost the topsoil reduced, but if

topsoil reaches water, the quality of the water is reduced. Sediment can deposit biological and chemical pollutants in water, further degrading water quality.

Soil erosion control methods are available; they often require short-term capital investments, and mainly offer long-term capital returns. The landowner is not always compensated in the short-term for his erosion control installations and management changes. However, the public benefits from the resultant maintenance of long-term soil productivity and improved water quality.

Objectives

A) The CDD will implement the Montana Soil Survey Plan; soil surveys for Montana are to be completed by 1999 at an annual cost of $525,000.
Rationale: Ranchers, farmers, and forestland owners will benefit from current soil surveys that give data on soil depth, slope, stability, and composition. Potentials for crop production are a major factor in this evaluation.

B) The CDD will obtain funding for 2 soil erosion control projects. Projects in the Headwaters, Bitterroot or Beartooth Resource Conservation and Development Program (RC&D) areas will be considered.
Rationale: These RC&D areas have identified several projects in their resource plans. Critical areas identified in these plans need treatment and the RC&D's are organized to address such problems as soil erosion.

C) The CDD will request an increase from the Agricultural Stabilization and Conservation Service (ASCS) in the Long Term Agreement (LTA) cost share from $3,500 to $5,000 per contract, per year. A 15% increase will be requested in total Long Term Agreement funds. LTA funds available for FY 1981 total $564,000 for the State of Montana.

Rationale: The Long Term Agreements are popular incentives for applying soil conservation practices. Often, however, the $3,500 limit does not cover the cost of soil conservation installations. There are not enough LTA funds to cover costs of all proposed projects.

Situation

Irrigation water is vital to Montana. Over 95 percent of the water withdrawn from Montana drainages is used for irrigation. More than 2.5 million acres in the state are fully or partially irrigated. Total water use for irrigation amounts to 12.4 million acre-feet of water over a six-month irrigation season each year. Surface water provides 99 percent of the irrigation water; 1 percent comes from ground water (DNRC 1975). Nearly 80 percent of Montana's irrigated land is in hay or pasture. Other major irrigated crops include small grains, corn sillage, sugar beets, beans, and potatoes (SCS 1980).

"Although gravity ditch and lateral systems have been by far the most extensively used, sprinkler systems are becoming more and more popular, using easily portable aluminum pipe with pumps or gravity feed drawing from streams, ponds, or wells" (DNRC 1975). Where gravity flow sprinkler systems can be used they save substantial amounts of power. In many places in Montana there is sufficient fall to generate the pressure needed. In Ravalli County five such projects have repaid their cost by irrigating several thousand acres efficiently with almost no power input. Drip systems are available that do not require high-pressure application of water. Because water is delivered slowly, less water is lost by evaporation or runoff. Both the water and energy used by a drip system is about 50 percent of conventional systems. (Ecotope Group 1977).

Inefficient irrigation water delivery and application is often a problem. It is estimated for Montana that only 47 percent of the water diverted actually reaches the farm. Of this 47 percent, 52 percent is consumed by the crop; the other 48 percent is lost because of delivery and on-farm inefficiencies (DNRC 1975). However, this situation can be improved. For example,

in the Missouri River Basin overall irrigation efficiency is a poor 20 percent. If an additional 600,000 acre-feet of irrigation water were provided by implementing structural and management improvements, reservoir storage for late season irrigation would result and overall efficiency could be increased by 35 percent for a total efficiency of 55 percent (Missouri River Basin Commission 1980). A further look at irrigation water management shows that one-fourth of the irrigated lands in Montana do have adequate on-farm irrigation systems but only half of these lands receive good irrigation water management (SCS 1978).

Concerns

Irrigation efficiency in Montana needs to be upgraded. Even though water supply may be adequate, if irrigation methods are ineffective, water will be wasted. Structural as well as managerial improvement is called for by the CDs. Increased use of gravity flow sprinkler systems and drip irrigation is needed to conserve water and energy.

Objectives

A) Request SCS to provide assistance to irrigation operators for irrigation water management training and irrigation systems improvement engineering. Assistance is needed in SCS working areas 3 to 6.

   Rationale: The technology is available to improve irrigation water management in Montana. However, more training and engineering expertise must be made available to apply this technology.

FOOD AND FIBER PRODUCTION

Situation

Closely tied to the loss of productive land is the increasing cost of food and fiber production. Prime agricultural land does not require the extensive fertilization and intensive treatment that marginal or moderately productive land does in order to produce abundantly. When this prime land is taken out of production and put to nonagricultural uses, production costs on the remaining land will be higher because of the increased necessity for fertilizers, cultivation, added irrigation, and weed control. Costs of the ultimate product to the consumer rise also.

In addition to these production problems, farmers face economic problems beyond their control--rising fuel prices, high costs of machinery and replacement parts, and the highest interest rates in our history.

Solutions to the dilemma of increasing costs of food and fiber production, together with the loss of highly productive agricultural land, whether cropland or rangeland, must be considered by state government. Objectives in the plan that contribute to the stability of future food and fiber production include water supply and rangeland improvement loans, water quality improvement projects, and flexible cropping demonstrations. Comprehensive plans like the much-publicized Oregon Plan depend on legislative action for their impetus, and cooperation from agriculturists for their continuing success. The discussion in the sections on Prime Agricultural Land and Rural Development addresses the companion issues that must be dealt with. The problem is complex; no easy solution is possible.

Concerns

Agriculture as a way of life and as a business must continue to be rewarding. Farmers and ranchers considering selling their holdings might be constrained from

doing so if their gains compared favorably with the prices offered for their land by nonagricultural users. Also, if proven methods of retaining agricultural land in that use were put into practice, productive land would continue to provide food and fiber for consumers.

Objectives

A) The CDD will assist interested CDs with the development of agricultural land preservation programs.

Rationale: The rate of farmland loss in some districts is so critical that the ability of farmers and ranchers to maintain their operations under pressure of increased costs is threatened. Programs and incentives to preserve agricultural land in these areas are needed. (A further discussion of land preservation problems is in the Land Use and Rural Development sections.)

WATER SUPPLY

Situation

There are three major river basins in Montana: the Columbia, the Missouri, and the Yellowstone. Total outflow of these basins averages nearly 44 million acre-feet per year; sixty-five percent of this water originates in Montana. In addition to the streamflows of the three major river basins the state has over 1,500 natural lakes and more than 60,000 reservoirs.

Water supply is dependent upon the watershed characteristics, the amount of precipitation within the watershed and the amount of water that can be stored along Montana's waterways. There is a large variation in annual flows and flow levels over the annual cycle. As a result, seasonal water supply shortages and drought are experienced in some areas of the state.

Drainages with localized water shortages, especially during late summer months, include but are not limited to the Powder, Tongue, Bitterroot, Madison, Gallatin, Jefferson, Big Hole, Smith, Dearborn, Sun, Milk, Mussellshell, and other rivers. The Jefferson Valley CD Long Range Plan identifies 6 streams totalling 107 miles in length that have dewatering problems.

Demands for Montana's water are increasing, and water availability is becoming crucial for future agricultural production. Domestic water use has priority; however, claims for large amounts of water for industry, hydropower, and maintenance of water quality and fisheries may overtake the future needs of agriculture. Cooperation between all water users is vital in establishing multiple-use water projects.

The Montana Water Use Act provides that Conservation Districts can reserve water for future agricultural needs and can claim priority as of the date such reservations are made. Districts must give water reservations high priority

in their planning activities. This, however, requires a comprehensive plan that identifies in some detail where the water will be used, where the diversions and storage will be made, the planned dates for development, and a demonstration of diligence toward implementation of the plan, based on economic and technological advancements. Such plans are needed by the CDs along the Yellowstone River in order to keep their water reservations.

Concerns

Present and future requirements for agricultural water must be met. Increased surface storage, in particular off-stream storage, is needed to meet future agricultural water requirements. Also CDs will need additional assistance if they are to take advantage of the water reservations available to them.

Objectives

A) The CDD will continue to secure $112,000 biannually as a state match for PL566 Watershed Project Planning. The PL566 projects involve construction of multiple use water projects. Federal funds are provided for the rest of the project costs.

   Rationale: The PL566 watershed planning must be continued to provide incentives for planning (and construction) of multiple use water projects.

B) The CDD will work with the Water Resources Division of the Department of Natural Resources and Conservation to carry out the water development loan portion of the proposed Water Resources Development Program.

   Rationale: Incentives are needed for further development of Montana's water supply.

C) The CDD will work with the Water Resources Division through the

proposed Water Resources Development Program to assist the 14 CDs along the Yellowstone River with their water reservation implementation plans. Those plans are to be submitted to the Board of Natural Resources and Conservation by Dec. 15, 1983.

Rationale: The CDs need to secure a future source of water for agricultural production.

D) The CDD will work with the Water Resources Division through the proposed Water Resources Development Program to assist 25 CDs in the Clarks Fork and the Missouri River basins to secure water reservations.

Rationale: The CDs need to secure a future source of water for agricultural production.

NOXIOUS WEEDS

Situation

Noxious weed infestation is becoming more prevalent statewide and is a serious threat to Montana's cropland and rangeland resources. The Montana Cooperative Extension Service estimates that loss of production caused by noxious weeds is costing the state a total of 100 million dollars per year (Great Falls Tribune 1981). The Agricultural Stabilization and Conservation Service, by the use of surveys, has estimated acres of noxious weed infestation for the state. In 1979, 548,323 acres were infested with leafy spurge. According to surveys taken in 1968, 1973, and 1978, 1,038,546 acres were infested with Canada thistle, 278,730 acres with field bindweed, 57,407 acres with Russian knapweed, and 62,635 acres with white top (ASCS 1978). Also, many of the CDs long-range plans identify problem weed species and infested acreages.

It is estimated by the Montana Cooperative Extension Service that individual operators paid 22.5 million dollars in 1980 for noxious weed control (Montana Department of Agriculture 1981). Proper tillage practices on cropland are very effective in controlling weeds, however, rangeland weed problems are often quite inaccessible and difficult to treat mechanically or chemically. Biological controls offer some possibilities for weed control in inaccessible areas but increased research is needed in the state.

In 1969 the Montana Weed Law was enacted to minimize the perennial noxious weed problem. Every county now has a weed district with boards to administer the noxious weed law. The law lists five noxious weeds; Canada thistle, leafy spurge, wild morning glory (field bindweed), white top and Russian knapweed. Counties can add to this noxious weed list if they wish.

However, some weed districts have problems with financing weed control programs, hiring and retaining well qualified personnel and carrying on a sufficient educational program for their districts (Montana Committee for Rural Development 1979).

Concern

Noxious weed infestation is degrading production and quality of Montana's cropland and rangeland resources. There is lack of sufficient research and technology on biological weed control in Montana. Furthermore, some local governments (weed districts) do not have the resources to effectively deal with their noxious weed problems.

Objectives

A) The CDD will include loans for weed control in a Rangeland Improvement Loan Program package (see objective B in the Rangeland Improvement section).

Rationale: Incentives to control noxious weeds must be provided in order to alleviate the problem.

B) The CDD will seek support funding of the Montana Experiment Station for research and education projects on biological weed control for Montana.

Rationale: Research on biological weed control must be accelerated in order to control weeds on rangeland and in areas where water pollution may occur if herbicides are used.

C) The CDD will encourage CDs to coordinate weed control activities with their local weed districts.

Rationale: With the district and the weed control boards working more closely together, noxious weed control programs will be more effective and better accepted.

CHANGES IN LAND USE

Situation

Changes in land use are happening every day in Montana. Those that particularly concern farmers, ranchers, and the people who use their products are the changes that take agricultural land out of production permanently. Probably no one is more aware of the consequences of converting agricultural land to nonfarm uses than is the farmer or rancher.

This problem has received national attention. (Farmlands Preservation 1980). With a ready reserve of 40 million acres of cropland in the U.S. that is dwindling at the rate of 3 million acres a year, it should be apparent that it will not be long before we reach a point where we will have no reserve land. It will then be too late for remedial measures. Although American agriculturists are respected worldwide for their skill at producing maximum yields per acre, there is a limit to how much a given piece of land can produce, even with the most advanced and intensive methods. Production cannot be forced upward indefinitely on a limited land base.

The National Agricultural Lands Study released in January 1981 warned that the U.S. is facing a land crisis in the next decade, unless policies are changed to stop the sprawl of suburbia, shopping centers, highways, and other development over productive croplands. In a speech at the National Agricultural Lands Conference in February 1981, Agriculture Secretary John R. Block urged state and local governments, with federal support, to begin steps to stop farmland conversions. "Liberty is really what we are talking about...," Block said. "Liberty doesn't mean the freedom to squander resources and evade responsibility. It means taking on responsibility, so that we have the freedom of making deliberate, conscious choices about our future."

Montana farmers and ranchers need to join with others nationwide to recognize and work for solutions to the problem of loss of productive land. Several proven solutions are available: land banking, agricultural zoning, amended inheritance tax laws, and acquiring development rights (conservation easement) to agricultural land by local governments, to name some of them.

Concerns

In Montana, conservation districts are the logical entity to act, with local planning boards and other local governmental agencies, to mitigate this problem.

Objectives

A) The CDD will encourage the Montana Department of Community Affairs to conduct an inventory of agricultural land and continue to monitor the rate of conversion (loss) of prime, unique, and important farmland.
Rationale: The last survey done for Montana on the loss of farmland was made from 1964 to 1974. A current survey and continuous monitoring is needed to assess the seriousness of this problem.

Situation

Agricultural land must be considered as a natural resource necessary to the well-being of the citizens of Montana, and as such, it must be guarded from loss. Changes in land use present a serious constraint on agricultural production throughout the U.S. From 1967 to 1975, 30.5 million acres were lost to agriculture nationwide. In the past two decades, outmigration from urban areas, speeded by severe problems in the cities, has turned thousands of acres of prime farmland into one-acre "country estates." Other losses of agricultural land are due to strip mining, commercial development, highway easements, airports, and other uses.

Expansion of urban development into rural areas causes many problems: demand for increase in public services such as roads and utilities, conflicts between farm and urban activity, and depletion of land that might be held in reserve for the future. Often "leapfrog" development puts pressure on farmers to sell, or makes it difficult for them to conduct their normal activities such as spraying crops or moving farm machinery.

Most of Montana's land-use change has occurred in Flathead, Missoula, Ravalli, Gallatin, Yellowstone, Cascade, Lewis and Clark, and Beaverhead counties. Taking Missoula County as an example, nearly half of the county's best agricultural land has been subdivided and is no longer in production, according to the Missoula County Subdivision Report by the Montana Environmental Information Center (MEIC). Since mid-1974, 37,182 acres in the county have been subdivided. Forty-eight percent of the 7,552 acres of land in Missoula County classified by SCS as prime agricultural land has been subdivided. Of the 4,672 acres of the county classified as important

agricultural land, 33 percent has been subdivided. A total of 42 percent of Missoula County's 12,353 acres of prime and important farmland has been lost to residential development.

In addition, nonfarm corporate and foreign ownership in agriculture has been increasing, as noted in Project 80, Montana Cooperative Extension Service, and in business news articles (Forbes, April 15, 1977; Business Week, March 27, 1978; The Nation, June 2, 1980). If this trend continues, agriculture may eventually become largely controlled by relatively few corporations, which could lead to the virtual elimination of the traditional family farm.

Inflated land prices and Montana's present structure of inheritance and estate taxes make it financially unprofitable to pass a farm on from one generation to the next; this situation threatens the future of the family farm or ranch. Some states, Wisconsin for example, mitigate the problem by allowing limited sale of agricultural land for homesites on a sliding scale that depends on the size of the principal holdings. This solution makes it possible for farmers and ranchers to benefit from escalating land prices without sacrificing extensive crop and pasture lands to development. Canada's Alberta Province uses a soil-bank system that allows the government first purchase rights on farmland when it is sold. Oregon provides tax benefits as one facet of its comprehensive Agricultural Lands Protection Plan, which has a farm-zone mechanism established by the Oregon legislature. Whatever solution is decided upon, retention of productive land in its present use for cropland and pasture is basic to food and fiber production.

Concerns

Loss of Montana's agricultural land is an urgent problem, and so is

loss of rangelands. Traditional family farm and ranch operations are also threatened.

Objectives

A) The CDD will assist interested CDs with the development of agricultural land preservation programs.

Rationale: The rate of farmland loss in some districts is so critical that the future self-sufficiency of these districts is threatened. Programs and incentives to preserve agricultural land in these areas are needed.

B) The CDD will request the Cooperative Extension Service to expand their "outreach capacity" for education in estate planning.

Rationale: More ranchers and farmers need to be educated in estate planning so they will be able to keep their family operations. Often these operations are sold to land developers to pay for inheritance or estate taxes.

SOCIO-POLITICAL CONCERNS

Situation

Farmers and ranchers need to exercise some control over local agricultural situations; CDs are expected to influence legislators and help to meet local resource conservation needs. CDs have recently acquired new responsibilities. Some of these new tasks are carrying out the Natural Streambed and Land Preservation Act of 1975 (SB 310), acting as the local management agency to protect and maintain water quality, and making implementation plans for water reservations on the Yellowstone River. The CDs may also be asked to take on sponsorship of water development projects for DNRC's Water Resources Development Program.

In response to a 1980 questionnaire, 60 percent of the CDs reported they needed a full-time or part-time coordinator.

Concerns

Several problems face the CDs. They need more active local leadership; another serious concern is that their legislative authority is not being used fully. Furthermore, local governments cannot always meet resource conservation needs and they lack money to finance their programs.

Objectives

A) The CDD will hold annual training sessions for CD supervisors and CD employees to keep them up to date on issues of importance and to train new supervisors.

Rationale: These training sessions will make the supervisors more effective in running CD programs.

B) The CDD will hold a conservation education tour of CD projects. The tours will be held every other year and will be open to the public.

Rationale: This tour will help get public support for CD programs.

C) The CDD will seek funding to hire 6 CD coordinators.

Rationale: The CDs work load has been increased greatly in the last few years and it is expected to increase in the future. Since supervisory time is limited, CDs with heavy work loads will need to hire a Conservation District Coordinator.

D) The CDD will develop a procedure manual for CD supervisors.

Rationale: Supervisors need a current document that will aid them in running their district programs.

RANGELAND IMPROVEMENT

Situation

About 65 million acres in Montana is rangeland or woodland that is suitable for grazing. This range is the main resource for Montana's livestock production industry. Range also makes other contributions to the state's economy through water production, recreation areas, and wildlife and fish habitat.

It is estimated that 41 percent of Montana's rangeland is in less than good condition (DNRC 1977). Unfortunately, Montana rangeland has historically been abused through overgrazing and mismangement. Range management specialists estimate that this condition may be reasonably increased by one grade, such as from fair to good. This increase, when converted to dollars, could represent an increased income of $1.40 per acre to the rancher. (Montana Committee for Rural Development 1979). Montana's rangelands are producing at only 59 percent of their potential, so there is room for improvement (DNRC 1977). Further range improvements will result in an increase in production on range and pastures, reduction in soil loss from wind and water erosion, water quality improvement, and wildlife habitat increase and improvement. Examples of these range improvements are rest rotation, deferred grazing, fencing, developing improved varieties of grasses, reseeding, fertilizing, water retention practices and in some cases weed, brush, and scrub timber control.

The Montana Rangeland Resources Coordination Act (HB484) was passed in 1977. The objectives of this act are to promote the coordination of activities intended to maintain and enhance the rangeland resources of

Montana. The Montana Rangeland Resources Program of DNRC is carrying out these objectives and will continue to do so. Also the Rangeland Improvement Loan Program has been designed to carry out the objectives of HB484 by making no-interest loans available for rangeland improvement practices.

Concerns

Clearly too much of Montana's rangeland is overused and in poor condition. Increased applications of range improvement practices (managerial and structural) are needed.

Objectives

A) The CDD will prioritize all counties in Montana on the basis of their potential for range improvement.

Rationale: The potential for range improvement must be known in order to direct funds and manpower to areas with the greatest potential.

B) The CDD will seek adequate financing for the Rangeland Improvement Loan Program. $500,000 is needed each biennium to establish a 5-million-dollar revolving fund.

Rationale: Incentives for range improvement practices are needed.

C) The CDD will update its publication of the Montana Rangeland Resources Program (DNRC June 1977).

Rationale: Incentives for range improvement practices are needed.

D) The CDD will request the Montana Cooperative Extension Service, the Montana Experiment Station and the SCS to provide range management information to 1,000 additional range operators.

Rationale: More range operators must be reached so range management information will be used to improve range conditions in Montana.

E) The CDD will encourage CDs to coordinate ranch planning between private operators and the public land management agencies they lease from.

Rationale: The CDs have signed cooperative agreements with the Bureau of Land Management, the U.S. Forest Service, the Soil Conservation Service, and the Montana Association of Conservation Districts to coordinate ranch planning between private operators and public land management agencies.

F) The CDD will request USDA to change its policy so operators will not be allowed to draw federal payments on class IV-VIII land (unsuitable for cropland) that has been cropped.

Rationale: Sometimes agricultural operators take advantage of programs for soil conservation on land that should never have been cropped. This objective is aimed at stopping such breakup of rangeland.

LOSS OF PRIME AGRICULTURAL LAND

Situation

High on the list of problems plaguing Montana CDs is the loss of production acreage, particularly cropland; loss of rangeland and pastureland are of almost equal concern. Loss of agricultural land, changes in land use, and development in rural areas are all part of the same problem, and all seem bound to continue.

The conversion of agricultural land to nonagricultural uses such as residential and commercial development results from several pressures; increased population, industrial expansion, demand for recreation areas, and land speculation are among them. In any case, the irrevocable conversion of agricultural land has reached proportions that should concern all those interested in the future welfare of agriculture.

Although the term "prime land" is used to describe any good land, there are marked differences between certain types of land. Prime land is any land that has the best combination of physical and chemical characteristics for producing any crop that could be grown in the area, and that has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields under acceptable farming practices.

Equally valuable are those unique farmlands with a special combination of soil, location, growing season, and moisture supply, able to sustain high quality yields of a particular crop. In Montana, the land around Flathead Lake, where cherry orchards make up the main use of farmland, is a good example of unique land.

A third type of agricultural land is that called "important." Land in this category is of statewide or local importance for production of crops

and forage. It includes those lands that are nearly prime and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some produce as high a yield as prime farmland if conditions are favorable.

As mentioned in the section on Food and Fiber Production, when farmers and ranchers must resort to marginal land for crops and pasture, costs of production go up. It takes more treatment to bring such land up to standards of production comparable to those of the three best types of land. Getting irrigation water to such land is often difficult and expensive.

Concerns

Loss of Montana's farm and range lands is a critical problem that must be slowed by proven methods of preserving agricultural land.

Objectives

A) The CDD will assist interested CDs with the development of agricultural land preservation programs.

Rationale: The rate of farmland loss in some districts is so critical that the ability of farmers and ranchers to maintain their operations under pressure of increased costs is threatened. Programs and incentives to preserve agricultural land in these areas are needed. (A further discussion of land preservation problems is in the Land Use and Rural Development sections.)

B) The CDD will encourage the Montana Department of Community Affairs to conduct an inventory of agricultural land and continue to monitor the

rate of conversion (loss) of prime, unique, and important farmland.

Rationale: The last survey done for Montana on the loss of farmland was made from 1964 to 1974. A current survey and continuous monitoring is needed to assess the seriousness of this problem.

RECREATION

Montana offers many forms of dispersed recreation, such as camping, fishing, photography, and nature study. Our park system is extensive, now numbering 238 recreation sites. Both public and private lands throughout Montana are important for recreation and the wildlife often associated with it. But projected upswings in population, complicated by increased demands on a shrinking land base, are expected to reduce the land available for recreation. Design for Tomorrow, the plan developed by the Montana Department of Fish, Wildlife, and Parks for future recreation management, is based on the premise that the state's population will exceed one million by 1995.

The plan indicates that availability of recreational resources will be jeopardized by declining access to public and private lands and waters. A trend documented by DFWP in 1973 and 1975 showed that land owners were increasingly reluctant to admit deer hunters to their land. Vandalism and damage to livestock were cited as principal reasons for this attitude. Although DFWP is working to improve relations between land owners and sportsmen, the problem is likely to remain. If population estimates are correct, the resident hunters alone could exceed current numbers of both resident and nonresident hunters. DFWP defines the resulting problem as "an increasing stress upon a decreasing resource base."

Part of the problem is an increase in conversions of land to such uses as energy development, urban expansion, rural subdivision, and agricultural use of marginal land. These in turn reduce recreational access,

wildlife habitat, and water resources.

Concerns

The CDD is concerned about these trends because such added pressures strain the capabilities of both rangeland and agricultural land.

Objectives

A) The CDD will encourage the Department of Fish, Wildlife, and Parks (DFWP) to enter into cooperative agreements with landowners for access to public recreation areas in exchange for DFWP services, such as streambank improvements.

Rationale: Public access sites for recreation are needed and these agreements will give incentive to landowners to provide access sites.

B) The CDD will encourage DFWP to establish a damage reimbursement fund for landowners who experience property losses caused by hunters. Damage claims would be investigated by DFWP field personnel. A $2.00 increase in license fees would pay for the damage reimbursement fund.

Rationale: This fund would improve relations between landowners and sportsmen.

WATER QUALITY

Situation

Under the Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500, Section 208, Montana's governor designated the Montana Dept. of Health and Environmental Sciences, Water Quality Bureau, as the responsible water quality planning agency for the state. As a result, the Water Quality Bureau's Statewide Water Quality Management Plan has been adopted by the State of Montana. CDs have agreed with the Dept. of Health and Environmental Sciences to be the local management agnecies for water quality improvement programs. The CDs have also adopted water quality management plans for their districts.

Although intensive management in the recent past has nearly alleviated point source pollution there are still some localized point source water quality problems in the state. Cities and towns cause most of this remaining point source pollution, but the state's programs for wastewater discharge permits and construction grants should virtually eliminate any remaining problems.

The most significant water quality problems originate from nonpoint sources such as; irrigation dewatering and return flows, saline seep, and sediment from agriculture, urban and stormwater runoff, logging and mining.

The extent of Montana's water quality problems has been documented by the Conservation Districts in An Agricultural Non-Point Source Pollution Management Plan for the Statewide Water Quality Management Plan. This report covers all of Montana except for the 13 counties in the 208 Areawide Planning Organizations (DHES 1979).

Irrigation can severely reduce stream flows, as it has in tributaries to the Beaverhead, Bitterroot, West Gallatin, Big Hole, Jefferson, and other rivers. The CD inventory identified 873 miles of streams with severe annual irrigation dewatering. Excessive water withdrawls cause a reduction in fisheries potential

due to loss of aquatic habitat, elevated temperatures, depressed disolved oxygen levels, increased dissolved substances, algae blooms and salinity increases. Drinking water, water sports, irrigation and industrial uses are impaired by such decreases in water quality. In addition irrigation return flows bring added problems. Each new acre of irrigated land can contribute as much as ½ to 2 tons of salt to streams each year. Salinity has already reached high levels on the Musselshell, Teton, Lower Yellowstone, Milk, and other river basin drainages (DHES 1979). Saline seep affects both surface and underground water; however, the extent of damage to water quality is not fully documented because no detailed saline seep records have been kept (see Saline Seep section). Excessive sediment is still the most common water quality problem in Montana (see Soil Erosion section).

Natural geological processes release sediment, but human activities hasten its production and magnify its effects. The CD inventory indicated that 3,700,000 acres of dry cropland, 4,900,000 acres of rangeland and pasture and 144,000 acres of irrigated cropland are being eroded by poor grazing or tillage practices. Furthermore, the inventory identified 1,108 miles of streambank that are being eroded. Urban stormwater runoff and construction activities discharge nutrients, minerals, heavy metals, oil and grease, and sediment to surface waters. Logging and its accompanying activities have caused substantial water quality degradation. In addition, 133 polluting mine operations have been identified. The inventory points out that 50 percent or more of these sediment problems could have been avoided if proper conservation practices had been used (DHES 1979).

A profile of one stream identified by a Conservation District as a water quality problem is Prickly Pear Creek in Lewis and Clark and Jefferson Valley CDs. Briefly, the problems identified on the Prickly Pear are due to hard rock mining in the upper tributaries which has discharged heavy metals into the creek. Placer mining along the mainstem above East Helena has altered the channel and caused sedimentation; also highway and railroad construction in this section has resulted in numerous channel changes. Two major industries (ASARCO, Inc.

and Kaiser Cement) are affecting the water quality of the creek. Water withdrawals for irrigation below East Helena has frequently dried up the stream. Sand and gravel operations, suburban growth, agricultural practices and other activities have damaged the riparian zone below East Helena. The cities of Helena and East Helena both discharge partially-treated sewage to the streams. The Prickly Pear has been found by the Water Quality Bureau to be one of the poorest quality streams in southwestern Montana (DHES).

Lewis and Clark and Jefferson Valley Conservation Districts are (through their district 208, water quality management program) jointly working on a project with water quality agencies and interest groups to clean up Prickly Pear Creek.

Concerns

Montana's major water quality problems originate from nonpoint sources. The most serious of these problems result from irrigation dewatering and return flows, saline seeps, sediment carrying chemical and biological pollutants from agricultural activities, urban and stormwater runoff, logging, and mining. The Conservation Districts have identified their most severe water quality problems in their water quality management plans. If these problems are to be solved on the local level the Conservation Districts will need the active support of water quality agencies and the state legislature.

Objectives

A) The CDD will continue to assist CDs with water quality management planning. New guidelines for CD planning activities will be developed.

Rationale: The CDs have agreed to be the local management agency for water quality improvement and protection. The CDs plans must continue to be updated to meet changing resource situations.

B) The CDD, with the Montana Department of Health and Environmental Sciences, will assist and accept at least 6 CDs water quality management project proposals.

Rationale: The CDs have identified water quality problems in their water quality management plans. Several of these problems are severe enough to warrant special attention. Project proposals will allow the CDs to obtain funding assistance.

C) The CDD will assist CDs to seek state and federal funds for their water quality projects.

Rationale: CDs will need funding assistance to solve their water quality problems.

D) Several CDs have listed streams needing inventories in their water quality management plans. The CDD will request the SCS, the Department of Fish, Wildlife, and Parks, and the Department of Health and Environmental Sciences to give accelerated assistance to those CDs for carrying out stream inventories.

Rationale: Some CDs have not been able to identify problems on a site-specific basis in their districts because the problems are complex. A stream inventory is needed to pinpoint these diverse problems.

SALINE SEEP

Situation

Saline seeps are recently developed (within the last 40 years) salty areas in nonirrigated cropland. The soil is wet some or all of the time, may have salt crusts, and the salinity can reduce or eliminate crop or grass growth. Saline seeps result from a combination of geological and soil conditions, cropping practices, and to some extent, higher than average annual precipitation.

Summer fallowing accelerates the rate of saline seep development. It allows the soil to store more water than can be used by the crop in one growing season. This unused water moves down through the soil and permeable subsoils, dissolving the naturally occuring salts enroute. When the salts and water reach an impermeable layer of subsoil, they move horizontally, and most eventually reach the surface. As the water evaporates, salt deposits are left behind, forming a saline seep.

The 1978 estimate of Montana drylands affected by saline seep was 200,000 acres, and growing at a rate of 10 percent a year (SCS 1979). However, careful evaluation of the saline seep mapping project by the Montana Bureau of Mines and Geology and reports by the Triangle Conservation District Saline Seep Team suggests that the 200,000 acre figure may be low.

> Seep affected areas in northern and central Montana appear to be considerably greater than previously estimated and conversely, in southern and eastern Montana the seep areas appeared to be less than previous estimates. On a region wide basis, the acreage of saline seep appears to be expanding at an average rate exceeding 10 percent per year....Expansion of seep areas by 20 to 200 percent in wet years is not uncommon, whereas expansion of only a few percent may occur in dry years. (Montana Bureau of Mines and Geology 1979).

Unfortunately no current acreage estimate of saline seep affected area is available.

Analyses have been made of water collected by the Montana Bureau of Mines and Geology near Fort Benton and Sidney, Montana, Mott, North Dakota, and Lethbridge, Alberta. The resulting data strongly suggested that in addition to the loss of thousands of acres of valuable farmland to saline seeps, mineralized water was rapidly contaminating nearby reservoirs, streams, and shallow aquifers. In some cases, the water was more saline than sea water (water tested was approximately 35,000 parts per million total disolved solids) and was unfit for domestic, livestock, and irrigation use. Reported livestock and wildlife kills in certain areas may be related to salinity problems (Montana Bureau of Mines and Geology 1979).

Concerns

Saline seeps affect Montana's water quality, wildlife resources, soil resources and rangeland, either severely curtailing the yield of crops or taking cropland and rangeland entirely out of production.

Objectives

A) The CDD will attempt to establish 4 areas for demonstrating the effectiveness of flexible cropping in controlling saline seep and soil erosion, and in achieving water quality improvement. Demonstration plots will be located in north-central, central, north-eastern, and south-central Montana.

Rationale: Farmers have been reluctant to use a flexible cropping system to control saline seep. Demonstration plots will help educate

agriculturalists on the use of flexible cropping.

B) The CDD will request the SCS to increase training for their field personnel in saline seep prevention and control.

Rationale: Often it is difficult for a farmer, untrained in saline seep problems, to prescribe prevention and control methods for saline seep. Expert assistance is needed.

C) The CDD will request USDA to authorize saline seep control practices as eligible for cost-share programs. Practices to be considered are alfalfa or grass seedings, seedbed preparation, weed control, and fertilization.

Rationale: Incentives are needed to encourage agricultural producers to control saline seep.

D) The CDD will continue to support efforts of the Triangle Conservation District Saline Seep Control Program.

Rationale: The Triangle program has been very successful in identifying and controlling seeps in the 9-county triangle area.

FLOODING

Situation

Flood damage presents serious health, environmental, economic, and safety problems. The Upper Missouri River Basin Level B Study estimated flood damage in the basin for 1975, a flood year, at a cost of over $7.5 million, affecting over 1 million acres of land. Flood damages projected for 1990 and 2000 are estimated to be $8.5 and $8.9 million, respectively. But the Upper Missouri study estimated that if accelerated enforcement of flood-plain regulations is implemented, flood damages are expected to be reduced by about 11 percent in 1990 and 16 percent in 2000.

Only one county in Montana has developed contingency plans for evacuation in the event of a flood, and that plan was prepared by the Carbon County Conservation District.

Several measures providing varying degrees of flood control have been instituted throughout the state. Some flood control protection is provided by several large-scale projects built by the U.S. Army Corps of Engineers and small watershed projects constructed by the SCS under PL-566. Montana owns 25 dams, as well; most have water storage as their chief function. Nonstructural approaches to flood control, such as flood-plain regulation, limit the types of developments on the flood plain or require flood proofing of structures already in the flood plain. Federal flood insurance has helped to reduce monetary damages suffered by flood-plain residents but cannot reduce actual damage.

DNRC feels that one method of effective land-use regulation is local administration of standards. Continued local level control of flood-plain management can be maintained only if local governments take the responsibility for regulating their flood plains.

Concerns

The major concerns pointed out by the RCA districts for flooding are the negative environmental and economic impacts caused by flooding, and the need to lessen these impacts..

Objectives

A) The CDD will request Congress to increase funding for PL 566 watershed protection and flood prevention projects by 15%.

Rationale: Incentives are needed to encourage construction of small flood prevention projects.

B) The CDD will encourage CDs to work with local planning boards to be sure local floodplain regulations are properly enforced.

Rationale: Floodplain regulations are necessary to stop flood damages and the CDs could be instrumental in enforcing these laws.

WILDLIFE HABITAT

The greatest problem facing wildlife today in Montana is loss of habitat. Human encroachment has accelerated in recent years as land uses change rapidly. Habitat is being destroyed or severely altered by energy development, urban expansion, rural subdivision, highway easements, and conversion of marginal land to agricultural use. Farm and forestry cultural practices disturb or destroy habitat, and overgrazing can reduce the food available to wildlife of many species.

As wildlife habitat decreases or loses its ability to support certain birds and animals, those populations decline. Wildlife under stress do not reproduce at a normal rate; young often fail to survive, due to inadequate food and insufficient range. Montana's big game populations are hard hit as development encroaches on their natural habitat, and changes their migration patterns. Nongame species, too, are forced to areas that are inadequate or incompatible to their needs. Many are unable to adapt to changes in their environments.

Private rangelands are vital to Montana's wildlife; they provide two-thirds of the food needed by our wildlife, according to the Montana Rangeland Resource Program (DNRC 1977). Some of the private land affords ponds, sloughs, and waterways for waterfowl, as well.

Concerns

Although Montana's population may not appear to be increasing dramatically, population upswings nationally put added demands on Montana's production of food. As the human population increases, its demands for food, land, and water grow. This added pressure strains the capabilities of the land that remains. Managers of wildlife have an obligation to provide areas for its preservation, as well as to accommodate human needs.

Objectives

A) The CDD will request the Soil Conservation Service to interest more landowners in developing fish and wildlife habitat plans in conjunction with their farm plans.

Rationale: Many farms and ranches need to develop wildlife and fish habitat on their land to replace habitat lost because of land use changes.

B) The CDD will encourage the CDs to give wildlife and fish habitat improvement projects high priority in their long range planning activities and in their information and education programs.

Rationale: Some agriculturalists and other land users do not recognize the importance of providing habitat for Montana's fish and wildlife. The CDs as local level influencing agencies need to educate these people as well as give concrete support by initiating habitat improvement projects.

C) The CDD will bring to the attention of wildlife and fish management agencies the need to provide contracts with landowners for wildlife and fish habitat improvements.

Rationale: Landowners need incentives to preserve and improve wildlife and fish habitat.

Situation

Montana's land area totals approximately 93.1 million acres, of which approximately 23 million acres are forested; of this, about 62 percent (14.4 million acres) is classified as commercial forest land. A third of Montana's commercial forest land is under small private and large industrial ownership. Sixty-seven percent of Montana's commercial forest land is under state, U.S. Forest Service, and other public management.

Since 1962, the amount of federally-managed classified forest land has gradually decreased, a trend that is expected to continue. In the small private sector, subdivisions and conversions to agricultural land have also depleted the commercial forest land base. For example, the number of forest landowners in Montana has increased from about 9,500 in 1969 to over 25,000 in 1979, an increase of over 163 percent. As the larger ownerships are divided into smaller ones (often as small as 3 to 5 acres), the land is essentially lost as a source of commercial timber.

In 1978, projections indicated substantial increases in demand for Montana's forest-related resources through 2030. Demand for timber was expected to range from current levels to five times the current levels, depending upon changing economic conditions and the share of the Montana forest products market taken by similar production in the Southeastern U.S. An increased share of the forest production is expected to come from small forestland (both privately- and state-managed), with much more assistance needed by individual landowners.

Concerns

Timber harvest and related forestry activities often result in serious environemtnal impacts. Roads are built, plant communities are disrupted, wildlife habitat is affected, vistas are altered, and man becomes a more frequent visitor. The districts are particularly concerned over land use conversions affecting forest and related resources, sedimentation problems caused by forestry activities, erosion, overgrazing, and a need for increased reforestation activities.

Objectives

A) The CDD will support funding of 4 extension foresters to work with the Cooperative Forestry Management Programs of the Montana Division of Forestry. These foresters will concentrate on making contact with the small landowner producer.

Rationale: Since the number of forest product producers is expected to increase, extension foresters are needed to make these forestry producers aware of the management programs available to them.

B) The CDD will assist CDs with adopting forestry practices for their water quality management plans. The Department of Health and Environmental Sciences has outlined "forest best management practice guidelines" for use by the CDs.

Rationale: The CDs need to make forestry product producers aware of water quality maintenance practices.

C) The CDD will encourage CDs to participate in the Montana Interagency Tree or Shrub Improvement Study (MITOSIS) to further the use of shelter belts. The MITOSIS program is cooperatively run by the Forestry Division of DNRC, the Soil Conservation Service, and other forestry agencies. The program is intended to find superior tree and shrub

species for field barrier and environmental plantings. CDs can assist in this program by finding service groups (4-H clubs, local science clubs, etc.) interested in collecting superior seed stock and finding cooperators interested in running a planting test area. Rationale: Many windbreaks have been removed from the Montana plains and many areas have never been protected by windbreaks. These fragile areas subject to soil blowing need the protection such planting can provide. Also tree and shrub planting provide wildlife habitat and if planted along streams provide streambank protection, water quality improvement, and fish habitat.

MINING

Situation

The Statewide Water Quality Management Plan has identified 133 polluting mining operations. The most serious problems are created by hard rock mines which cause acid mine drainage and sediment. Small hard rock mining operations, more numerous and less carefully scrutinized than larger, less remote mines, are and will continue to be major local sources of water pollution (DHES 1979).

Recently there has been an increase in gold dredging and placer mining activities in Montana, which will have adverse affects on water quality and fish and wildlife habitat. This problem could become even greater because this trend is expected to continue.

Several CDs have identified a concern over strip mining in their long-range plans. These districts are Powder River, Treasure County, and Rosebud County. These districts are mainly concerned over the loss of productive agricultural land to strip mining and the disruption of aquifers.

Since the passage of the 1973 Montana Strip and Underground Mine Reclamation Act the Montana Department of State Lands has been issuing permits for coal strip mining. As of February, 1981, 22,818 acres have been permitted under the Strip-mining Act. Of these 22,818 acres, 10,793 are permitted for mining level disturbances (actual area of extraction); 3,184 acres are permitted for mining facilities (coal crushers, haul roads, sediment ponds, diversion ditches, storage, offices, etc.); 8,842 acres permitted for associated disturbances (power lines, light roads, etc.). Most of the strip-mine leaseholds do not have significant amounts of small grain and hayland on a site by site basis. The majority of strippable coal in Montana is overlain by rangeland (Montana Department of State Lands 1981). However, mining may occur on alluvial valley soils.

According to the Montana Bureau of Mines and Geology:

> water levels or hydrostatic pressures in aquifers penetrated by mining will decline because of increased, reversed, or interrupted hydraulic gradients. Such observations cause no astonishment; the principles of hydrology demand that they occur. It has also been shown without surprise that under certain vertical-flow conditions, hydrostatic pressures in aquifers below an active mine can decline because of reduced pressures in above lying disturbed aquifers (Montana Bureau of Mines and Geology 1977).

For example, the proposed mining operations near Colstrip in south-eastern Montana, depending on the size of actual mine areas, may physically destroy 5 perennial reservoirs, 4 springs, and 26 water wells. In addition, storage yields from 3 springs and 9 wells and storage in 4 other reservoirs may be diminished (Montana Bureau of Mines and Geology 1977).

Concerns

Acid mine drainage from abandoned hard rock mines is causing serious water quality problems in the state. Further concern is aroused by the increase in gold dredging and placer mining activities and resultant environmental damages. Strip mining in eastern Montana will cause a disruption in local aquifers and undoubtedly affect other water users. Also there is concern over loss of productive agricultural land to strip mining. Careful attention must be given to preserve these areas where possible.

Objectives

A) The CDD will encourage CDs to follow the Department of Fish, Wildlife, and Parks guidelines for determining standards of water quality and fishery maintenance for suction and other dredge activity. (Where desirable each CD may wish to develop its own guidelines for issuing natural streambed and land preservation permits).

Rationale: The Natural Streambed and Land Preservation Act (310), 1975, MCA 75-7-101 through 75-7-217, requires that any private person or organization (nongovernmental), gain approval of the Board of Supervisors of the local Conservation District before instigation of any activity on private or public lands within the high water marks of a perennial flowing stream. Since the CDs are to keep sedimentation to a minimum in issuing 310 permits the increase of stream dredging activities make this job difficult. CDs need to adopt guidelines for stream dredging activities in their districtsto use as a reference for 310 applications.

B) The CDD will support the Department of State Lands efforts to use Abandoned Mine Land Program money to carry out a stream reclamation project on the Prickly Pear drainage for abatement of acid mine drainage problems(see Water Quality section). Also the CDD will request that the CDs support this project and recommend use of these funds on other mine drainage projects identified in some of the CDs water quality management plans.

Rationale: Solving the problems of acid mine drainage problems from hard rock mining is very costly. Financial assistance is needed.

C) The CDD will assist those CDs that have land use conversion and aquifer disruption problems due to strip mining. Emphasis will be placed on preserving prime, unique and statewide important farmland (see Food and Fiber section), and determining effects of proposed strip mining on aquifers.

Rationale: The CDD can help CDs coordinate activities involving strip mining, on the state level, with other agencies.

FISH HABITAT

Situation

Montana's streams and rivers provide some of the finest fish habitat in the nation. The western two-thirds of Montana has 12,050 miles of trout streams. About 70 percent of the state's trout fishery is bordered by private land (DFG 1978). This habitat can only be increased by expensive land acquisition, so its future condition depends on its preservation.

Where agricultural uses co-exist with fish habitat, its preservation can be achieved if farmers and ranchers protect stream banks and avoid channelization. The areas along streams are often the most vulnerable to erosion, breakdown, and the sedimentation that follows. Stream banks can be protected by maintaining vegetation that resists erosion, fencing livestock, establishing riprap that can be bermed and planted, and tilling away from stream banks. Agriculturists should avoid clearing vegetation from stream banks since overhangs of trees and shrubs afford needed cover in pools that fish like to frequent (DFWP 1981).

Concerns

Because so much of Montana's fish habitat borders private agricultural land, the cooperation of farmers and ranchers is essential for its preservation.

Objectives

A) The CDD will request the Soil Conservation Service to interest more landowners in developing fish and wildlife habitat plans in conjunction with their farm plans.

Rationale: Many farms and ranches need to develop wildlife and fish habitat on their land to replace habitat lost because of land use

changes.

B) The CDD will encourage the CDs to give wildlife and fish habitat improvement projects high priority in their long-range planning activities and in their information and education programs.

Rationale: Some agriculturalists and other land users do not recognize the importance of providing habitat for Montana's wildlife and fish. The CDs as local level influencing agencies need to educate these people as well as give concrete support by initiating habitat improvement projects.

C) The CDD will bring to the attention of wildlife and fish management agencies the need to provide contracts with landowners for wildlife and fish habitat improvements.

Rationale: Landowners need incentives to preserve and improve wildlife and fish habitat.

D) The CDD will encourage fish and wildlife management agencies to research the feasibility of using off-stream storage for providing in-stream flows for fish habitat.

Rationale: The possibility of off-stream storage needs to be researched as an alternative to in-stream flow reservations.

CONSERVATION DISTRICTS DIVISION WORK PLAN

The Conservation Districts Division has developed a plan of work for carrying out this resource conservation plan. Tasks neccessary to accomplish each objective have been identified, along with the number of hours required to complete each task and its estimated costs. Each task is scheduled during a 4-year period from Fiscal Year 1982 to 1985 (see Appendix F).

Objectives Within CDD Control

The following objectives are to be completed in their entirety by the Conservation Districts Division of DNRC. The objectives are grouped under the concern they are intended to address; each objective is followed by a list of tasks (steps) required for its accomplishment. The first column shows the hours required to complete each task. The second column shows the cost of completing the tasks in CDD salaries, benefits, and travel (where significant). The third column records "pass-through monies" and the last column shows total cost, which tallies the second and third columns. All costs are based on 1980 dollars.

CONCERN: SOIL EROSION

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Costs ($)
1. The CDD will implement the Montana Soil Survey Plan if funded; soil surveys for Montana are to be completed by 1999 at an annual cost of $525,000.				
01. Negotiate contract with the SCS for soil scientists	24	339.84		339.84
02. Negotiate contract with the Montana Cooperative Extension Service and the Montana Experiment Station for public information and education services	24	339.84		339.84
03. Pay contracts	06	45.36	2,100,000.00	2,100,045.36
Subtotal	54	$725.04	$2,100,000.00	$2,100,725.04

Objective and Tasks	Hours	Costs ($)	Pass Thru ($)	Total Cost ($)
2. The CDD will obtain funding for 2 soil erosion control projects. Projects in the Headwaters, Beartooth, and Bitterroot Resource Conservation and Development Areas (RC&Ds) will be considered.				
01. Review RC&D plans to select probable projects	30	248.40		248.40
02. Meet with RC&Ds	16	226.56		226.56
03. Inspect project sites	32	453.12		453.12
04. Select 2 projects	10	141.60		141.60
05. Prepare budgets	32	453.12		453.12
06. Identify funding source alternatives	16	132.48		132.48
07. Choose funding source	12	169.92		169.92
08. Prepare funding requests	24	339.84		339.84
09. Support requests	40	566.40		566.40

Objectives and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost
10. Secure Funds	12	169.92		169.92
Subtotal	224	2,901.36		2,901.36
TOTAL FOR SOIL EROSION	278	3,626.40	2,100,000.00	2,103,626.40

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
3. The CDD will assist interested CDs with the development of agricultural land preservation programs.				
01. Research CDs legal authority for using present methods of agricultural land preservation	60	950.40		950.40
02. Research present methods used by other states for preservation of agricultural land	160	1,324.80		1,324.80
03. Recommend best methods for use by Montana's CDs	48	397.44		397.44
04. Hold seminars on agricultural land preservation in conjunction with the Montana Association of Conservation Districts area meetings to gain the CDs support in preserving prime agricultural land	100	1,092.40		1,092.40

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
05. Assist Flathead CD with setting up an agricultural land preservation program; this will be considered a pilot program	165	1,374.48		1,374.48
Subtotal	533	$5,139.52		$5,139.52
Total for Food and Fiber Production	533	$5,139.52	0.00	$5,139.52

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
4. The CDD will continue to secure $112,000 biannually as a state match for PL566 Watershed Project Planning. The PL566 projects involve construction of multiple use water projects. Federal funds are provided for the rest of the project costs.				
01. Examine possible funding sources	40	566.40		566.40
02. Select desired funding source	12	169.92		169.92
03. Develop funding request	24	339.84		339.84
04. Obtain public support	64	906.24		906.24
05. Secure funding	16	226.56	224,000.00	224,226.56
Subtotal	156	$2,208.96	$224,000.00	$226,208.96
Total for Water Supply	156	$2,208.96	$224,000.00	$226,208.96

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
5. The CDD will include loans for weed control in a Rangeland Improvement Loan Program package. (see Objective 11)				
01. Meet with the Rangeland Executive Committee to set up addition of weed control loans to a rangeland loan package	16	432.08		432.08
02. Finalize loan package	24	230.40		230.40
03. Develop criteria for loan acceptance	40	384.00		384.00
04. Develop guidelines for loan applications	40	384.00		384.00
05. Inform CDs and general public of addition of noxious weed controls to range loan program through CD workshops and news articles	80	768.00		768.00
Subtotal	200	$2,198.48		$2,198.48
Total for Noxious Weeds	200	$2,198.48		$2,198.48

CONCERN: LAND USE

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
See Objective 3.				

CONCERN: RURAL DEVELOPMENT

See Objective 3.

CONCERN: SOCIO-POLITICAL CONCERNS

6. The CDD will hold annual training sessions for CD supervisors and CD employees to keep them up to date on issues of importance and to train new supervisors				
01. Select workshop material	160	662.40		662.40
02. Plan agenda	24	198.72		198.72
03. Notify supervisors and CD employees	24	198.72		198.72
04. Hold workshops; 3 workshops in each of the 6 SCS work unit boundaries	1,152	11,056.88		11,056.88
Subtotal	1,360	$12,116.72		$12,116.72

CONCERN: SOCIO-POLITICAL CONCERNS

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
7. The CDD will hold a conservation education tour of CD projects. The tours will be held every other year and will be open to the public				
01. Select tour site	48	679.68		679.68
02. Organize tour (plan agenda)	40	679.68		679.68
03. Inform the public (i.e., natural resource agencies and legislators)	120	950.40		950.40
04. Hour tour	24	339.84		339.84
8. The CDD will seek funding to hire 6 CD coordinators				
01. Research possible funding sources	32	264.96		264.96
02. Choose a funding source	06	49.68		49.68
03. Prepare budget request	12	99.36		99.36
04. Develop support of the public	36	298.08		298.08
05. Secure funding	06	49.68	150,000.00	150,049.68
Subtotal	324	$3,411.36	$150,000.00	$153,411.36

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
9. The CDD will develop a procedure manual for CD supervisors				
01. Develop a questionnaire for CD supervisors and district employees to obtain information they need in a procedures manual	30	248.40		248.40
02. Send questionnaires	06	45.36		45.36
03. Tally and analyse questionnaires	24	198.72		198.72
04. Prepare outline for procedures manual	20	165.60		165.60
05. Prepare text of procedures manual	96	794.88		794.88
06. Edit and review	40	324.00		324.00
07. Complete graphics	24	187.20		187.20
08. Complete printing (not DNRC time)	00	1,000.00		1,000.00
09. Distribute copies	08	260.00		260.00
Subtotal	248	$3,224.16		$3,224.16
Total for Socio-Political Concerns	$1,932	$18,752.24	$150,000.00	$168,752.24

CONCERN: RANGE IMPROVEMENT

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
10. The CDD will prioritize all counties in Montana on the basis of their potential for range improvement.				
01. Select rating group	08	76.80		76.80
02. Determine rating group	18	172.80		172.80
03. Design rating form	18	172.80		172.80
04. Hold rating session	20	192.00		192.00
05. Research/revise	08	76.80		76.80
06. Issue final list and completed rating matrix	22	211.20		211.20
11. The CDD will seek adequate financing for the Rangeland Improvement Loan Program.				
01. Study available funding sources	32	307.20		307.20
02. Pick a source	12	115.20		115.20
03. Prepare budget and request	40	384.00		384.00
04. Submit request	04	30.24		30.24
05. Develop CD and rancher support	60	576.00		576.00
06. Secure funds	08	76.80	1,000,000.00	1,000,076.80
Subtotal	250	$2,391.84	$1,000,000.00	$1,002,391.84

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
12. The CDD will update its publication of the Montana Rangeland Resources Program (DNRC June 1977)				
01. Obtain updated statistics	105	1,008.00		1,008.00
02. Compare condition to 1980 goals	08	76.00		76.00
03. Develop new goals	08	76.00		76.00
04. Revise remainder of text	44	422.40		422.40
05. Edit and review	41	299.16		299.16
06. Complete graphics	24	187.20		187.20
07. Complete printing (not DNRC time)	00	1,500.00		1,500.00
08. Distribute copies	08	76.00		76.00
Subtotal	238	$ 3,644.76		$ 3,644.76
Total for Rangeland Improvement	488	$ 6,036.60	$ 1,000,000.00	$ 1,006,036.50

CONCERN: PRIME AGRICULTURAL LAND

Objectives and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
See Objective 3.				

CONCERN: WATER QUALITY

13. The CDD will continue to assist CDs with water quality management planning. New guidelines for CD planning activities will be developed.				
01. Revise data in 1974 guidelines	48	397.44		397.44
02. Develop new outline	40	331.20		331.20
03. Write text of guidelines	128	1,059.84		1,059.84
04. Review and edit	44	364.32		364.32
05. Complete graphics	24	198.72		198.72
06. Complete printing (not DNRC time)	00	1,000.00		1,000.00
07. Distribute	08	66.24		66.24
Subtotal	292	3,417.76		$3,417.76

CONCERN: WATER QUALITY

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
14. The CDD, with the Montana Department of Health and Environmental Sciences, will assist and accept at least 6 CDs water quality management project proposals.				
01. Assist with writing of proposals	144	1,382.40		1,382.40
02. Review applications	96	921.60		921.60
03. Inspect project sites	144	2,102.40		2,102.40
04. Choose applications	72	691.20		691.20
Subtotals	456	5,097.60		$5,097.60
Total for Water Quality	748	$8,515.36	0.00	$8,515.36

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
15. The CDD will seek funding for and establish 4 areas for demonstrating effectiveness of flexible cropping in controlling saline seep and soil erosion, and in achieving water quality improvement. Demonstration plots will be located in north-central, central, north-eastern, and south-central Montana				
01. Examine possible sources of funds	48	676.80		676.80
02. Decide on funding source	08	113.28		113.28
03. Compose budget and project guidelines	56	792.96		792.96
04. Procure public support	64	906.24		906.24
05. Obtain funds	04	30.24		30.24
06. Develop project applications	56	792.96		792.96
07. Publicize program	120	993.60		993.60
08. Review applications	48	1,076.80		1,076.80
09. Inspect prospective demonstration sites	96	1,359.36		1,359.36

CONCERN: SALINE SEEP cont.

Objective and Tasks	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
10. Select 4 sites	16	226.56		226.56
11. Negotiate contracts	48	676.80		676.80
12. Develop progress report forms	12	115.20		115.20
13. Evaluate progress	24	230.40		230.40
Subtotal	600	$7,991.20		$ 7,991.20
Total for Saline Seep	600	$7,991.20	0.00	$7,991.20

Cost of objectives 1-15 (in 1980 dollars)

Objectives to be Completed by the CDD	Hours	Cost ($)	Pass Thru ($)	Total Cost ($)
Soil Erosion	278	3,626.40	2,100,000.00	2,103,626.40
Food and Fiber Production	533	5,139.52	0.00	5,139.52
Water Supply	156	2,208.96	224,224,000.00	226,208.96
Noxious Weeds	200	2,198.48	0.00	2,198.48
Land Use (See Food and Fiber Production)				
Rural Development (See Food and Fiber Production)				
Socio-Political Concerns	1,932	18,752.24	150,000.00	168,752.24
Rangeland Improvement	488	6,036.60	1,000,000.00	1,006,036.60
Prime Agricultural Land (See Food and Fiber Production)				
Water Quality	748	8,515.36	0.00	8,515.36
Saline Seep	600	7,991.20	0.00	7,991.20
GRAND TOTAL	4,935	$54,468.76	$3,474,000.00	$3,528,468.76

Objectives Influenced by the CDD

The following objectives will ultimately be achieved by other state and federal resource agencies. In accomplishing these objectives, the Conservation Districts Division's role will be as an "influence management agency". Also, some of the objectives are intended to be worked out cooperatively with other agencies.

Objective

Concern: Soil Erosion

16. The CDD will request an increase from the Agricultural Stabilization and Conservation Service (ASCS) in the Long Term Agreement (LTA) cost-share from $3,500 to $5,000 per contract, per year. A 15% increase will be requested in total Long Term Agreement funds. LTA funds available for FY 1981 total $564,000 for the State of Montana.

Concern: Irrigation Water Management

17. The CDD will request the SCS to provide assistance to irrigation operators for irrigation water management training and irrigation systems improvement engineering. Assistance is needed in SCS working areas 3 to 6.

Concern: Water Supply

18. The CDD will work with the Water Resources Division of the Department of Natural Resources and Conservation to carry out the water development loan portion of the proposed Water

Resources Development Program.

19. The CDD will work with the Water Resources Division through the proposed Water Resources Development Program to assist the 14 CDs along the Yellowstone River with their water reservation implementation plans. Those plans are to be submitted to the Board of Natural Resources and Conservation by Dec. 15, 1983.

20. The CDD will work with the Water Resources Division through the proposed Water Resources Development Program to assist 25 CDs in the Clarks Fork and the Missouri River basins to secure water reservations.

Concern: Noxious Weeds

21. The CDD will support funding of the Montana Experiment Station for research and education projects on biological weed control for Montana.

22. The CDD will encourage CDs to coordinate weed control activities with their local weed districts.

Concern: Land Use

23. The CDD will encourage the Montana Department of Community Affairs to conduct an inventory of agricultural land and continue to monitor the rate of conversion (loss) of prime, unique, and important farmland.

Concern: Rural Development

24. The CDD will request the Cooperative Extension Service to "expand their outreach capacity" for education in estate planning.

Concern: Rangeland Improvement

25. The CDD will request the Montana Cooperative Extension Service and the Montana Experiment Station to provide range management information to 1,000 range operators.

26. The CDD will encourage CDs to coordinate ranch planning between private operators and the public land management agencies they lease from.

27. The CDD will request USDA to change its policy so operators will not be allowed to draw federal payments on class IV-VII land (unsuitable for cropland) that has been cropped.

Concern: Loss of Prime Agricultural Land

See objective 23.

Concern: Recreation

28. The CDD will encourage the Department of Fish, Wildlife, and Parks (DFWP) to enter into cooperative agreements with landowners for access to public recreation areas in exchange for DFWP services, such as streambank improvements.

29. The CDD will encourage DFWP to establish a damage reimbursement fund for landowners who experience property losses caused by hunters. Damage claims would be investigated by DFWP field personnel. A $2.00 increase in license fees would pay for the damage

reimbursement fund.

Concern: Water Quality

30. The CDD will assist CDs to seek state and federal funds for their water quality projects.

31. Several CDs have listed streams needing inventories in their water quality management plans. The CDD will request the SCS, the Department of Fish, Wildlife, and Parks, and the Department of Health and Environmental Sciences to give accelerated assistance to those CDs for carrying out stream inventories.

Concern: Saline Seep

32. The CDD will request the SCS to increase training for their field personnel in saline seep prevention and control.

33. The CDD will request USDA to authorize saline seep control practices as eligible for cost-share programs. Practices to be considered are alfalfa or grass seedings, seedbed preparation, weed control, and fertilization.

34. The CDD will continue to support efforts of the Triangle Conservation District Saline Seep Control Program.

Concern: Flooding

35. The CDD will support efforts to increase funding for PL566 watershed protection and flood prevention projects by 15%.

36. The CDD will encourage CDs to work with local planning boards to be sure local flood-plain regulations are properly enforced.

Concern: Wildlife Habitat

37. The CDD will request the Soil Conservation Service to interest more landowners in developing fish and wildlife habitat plans in conjunction with their farm plans.

38. The CDD will encourage the CDs to give wildlife and fish habitat improvement projects high priority in their long range planning activities and in their information and education programs.

39. The CDD will bring to the attention of wildlife and fish management agencies the need to provide contracts with landowners for wildlife and fish habitat improvements.

Concern: Forestry

40. The CDD will encourage the legislature to fund 4 extension foresters to work with the Cooperative Forestry Management Programs of the Montana Division of Forestry. These foresters will concentrate on making contact with the small landowner-producer.

41. The CDD will assist CDs with adopting forestry practices for their water quality management plans. The Department of Health and Environmental Sciences has outlined "forest best management practice guidelines" for use by the CDs.

42. The CDD will encourage CDs to participate in the Montana Interagency Tree or Shrub Improvement Study (MITOSIS) to further the use of shelterbelts. The MITOSIS program is cooperatively run by the Forestry Division of DNRC, the Soil Conservation Service, and other forestry agencies. The program is intended to find superior tree and shrub species for field barrier and environmental plantings. CDs can assist in this program by finding service groups (4-H clubs, local

science clubs, etc.) interested in collecting superior seed stock and finding cooperators interested in running a planting test area.

Concern: Mining

43. The CDD will encourage CDs to follow the Department of Fish, Wildlife, and Parks guidelines for determining standards of water quality and fishery maintenance for suction and other dredge activity. (Where desirable each conservation district may wish to develop its own guidelines for issuing natural streambed and land preservation permits.)

44. The CDD will support the Department of State Lands efforts to use Abandoned Mine Land Program money to carry out a stream reclamation project on the Prickly Pear drainage for abatement of acid mine drainage problems (see Water Quality section). Also the CDD will request that the CDs support this project and recommend use of these funds on other mine drainage projects identified in some of the CDs water quality management plans.

45. The CDs will assist those CDs that have land use conversion and aquifer disruption problems due to strip mining. Emphasis will be placed on preserving prime, unique, and statewide important farmland (see Food and Fiber section), and determining effects of proposed strip mining on aquifers.

Concern: Fish Habitat

46. The CDD will encourage fish and wildlife management agencies to research the feasibility

of using off-stream storage for providing in-stream flows for fish habitat.

See objectives 37 and 38.

The Conservation Districts Division will continue to influence and work cooperatively with other agencies and organizations to carry out objectives 16-46 by preparing justification statements and presenting written and verbal testimonies. The division will meet periodically with the heads of local branches of federal and state agencies in Montana, as well as annually with the heads of federal agencies in Washington, D.C.

In some cases the Conservation Districts Division will obtain support from the Conservation Districts, the Montana Association of Conservation Districts, state and federal resource agencies, legislators, and the public. The division may sponsor projects for CDs or inform CDs of programs they may wish to sponsor. The Conservation Districts Division may assist with writing policy changes, job descriptions, and project or program guidelines.

CONCLUSION

The preservation and wise use of Montana's water, soil, farmlands, forestlands, and wildlife habitat are all part of a complex responsibility. All these resources are interdependent and the duties of those who work to preserve them are also closely related. The management of Montana's diverse resources on private land is being accomplished by members of conservation districts working with each other and with state and federal agencies.

In this plan, the Conservation Districts Division has brought together the needs expressed by many farmers and ranchers across the state. They indicated what their problems were and how they thought they might be solved. CD members then worked with the CDD to develop a plan that would help to correct these problems. This plan provides a guide for tasks directed at specific objectives, with projected time lines and costs for each. Incentives and assistance are needed from cooperating agencies for the accomplishment of some of these objectives.

Where such cooperation was needed, the possible sources of funding and other support are indicated. In many cases local CD members can achieve the objectives themselves. The Conservation Districts Division believes that this plan will prove to be a useful tool for the members of Montana's conservation districts.

APPENDIX

A. Conservation District Division Policies and Duties

B. Formation and Purpose of the Resource Conservation Advisory Council

C. Members of the Resource Conservation Advisory Council

D. Sample RCA Worksheet

E. References

F. Schedule of Objectives

APPENDIX A

Policies of the Conservation Districts Division

The policies of the Conservation Districts Division are to:

1) provide for the control and prevention of soil erosion;

2) provide for the prevention of damage by flood water and sediment;

3) provide for the conservation, development, utilization, and dispersal of water;

4) provide for the protection and development of fish and wildlife habitat;

5) protect and improve water quality from nonpoint sources of pollution;

6) provide for the optimum quality and quantity of rangeland;

7) preserve Montana's prime, unique, and important farmlands; and

8) protect streambeds.

Duties of the Conservation Districts Division

The duties of the Conservation Districts Division are to:

1) offer assistance to the supervisors of conservation districts in carrying out their programs;

2) keep the supervisors of each of the districts informed of the activities of all other districts and promote an interchange of advice and experiences between the districts, and cooperation between them;

3) coordinate the programs of the conservation districts by advice and consultation;

4) secure the cooperation and assistance of the federal government and of agencies of Montana in the work of the districts;

5) disseminate information throughout the state concerning the activities and programs of the conservation districts; and

6) encourage the formation of districts in areas where their organization is desirable.

APPENDIX B

Formation of Resource Conservation Advisory Council

The Governor of the State of Montana was given the power to set up the council by the Montana Code Annotated 2-15-122; the 12 council members are appointed by the Governor.

Purpose of Resource Conservation Advisory Council

The purpose of the Resource Conservation Advisory Council shall be to:

(1) Advise and assist the Department of Natural Resources and Conservation on all programs and activities relating to conservation entities, including programs and activities relating to the:

   (a) formation, organization, and operation of districts;
   (b) control and prevention of soil erosion;
   (c) conservation, development, utilization and disposal of all water resources;
   (d) prevention of floodwater and sediment damages;
   (e) conservation, protection, restoration, and proper utilization of soil and vegetative resources of the state;
   (f) development of the rangeland resource program;
   (g) cooperation with other state and federal agencies, and citizen groups, in land uses related to natural resources and environment.

(2) (a) Advise and assist the Department in approving applications for assistance under PL-566 (Watershed Act) prior to submission to the Board of Natural Resources and Conservation;
   (b) Advise and assist the Department in approving applications for assistance under the Food and Agriculture Act for Resource Conservation and Development (RC&D) projects prior to submission to the Board of Natural Resources and Conservation;

(3) Recommend changes, if necessary, in existing state or federal laws or regulations to protect and conserve the soil, vegetation and water resources of the state;

(4) Provide a liaison between the Department, conservation districts, grazing districts, the Montana Association of Conservation Districts, and the Montana Association of State Grazing Districts.

Members of Resource Conservation Advisory Council were chosen as follows:

- One member residing in each of the four regional areas of the state who actively participates in the activities of Conservation Districts, Grazing Districts, or both;

- One member nominated by the Executive Committee of the Montana Association of Conservation Districts;

- One member nominated by the Board of Directors of the Montana Association of State Grazing Districts;

- One member representing the general public;

- One non-voting member, who shall be the State Conservationist of the Soil Conservation Service, USDA, or his designee;

- One non-voting member, who shall be the Director of the Montana Department of Agriculture, or his designee;

- One non-voting member, who shall be the Director of the Montana Department of Fish and Game, or his designee;

- One non-voting member, who shall be the Director of the Montana Department of Health and Environmental Sciences, or his designee;

- One non-voting member, who shall be the Director of the Cooperative Extension Service at MSU or his designee;

APPENDIX C

Members of the Resource Advisory Council (RCAC)

Carl Johnson, Chairman
Route 85
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James Flynn
Dept. of Fish, Wildlife & Parks
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APPENDIX D

RCA WORKSHEET NO. 1
Resource Concerns and Problems

Field Office Use

(01)

State Code _____ State Name _____ Recorder _____

County Code _____ County Name _____ Date _____

Location Code _____ Field Office _____

District Name _____

Items of Concern	Concern/ Problem Codes		Degree of Concern Major	Minor
I. Food and Fiber Production	01	01		
a. Loss of production acres	01	02		
1. Cropland	01	03		
2. Pastureland	01	04		
3. Rangeland	01	05		
4. Forestland	01	06		
b. Energy consumption	01	07		
c. Increased costs	01	08		
d. Brush encroachment	01	09		
e. Other	01	10		
II. Land Use	02	01		
a. Effect of public facilities	02	02		
b. Urban sprawl	02	03		
c. Migration to rural areas	02	04		
d. Public ownership	02	05		
e. Soil limitations	02	06		
f. Land ownership	02	07		
g. Leased land farming	02	08		
h. Growing recreation demand	02	09		
i. Other	02	10		
III. Flooding	03	01		
a. Economic impact	03	02		
b. Environmental impact	03	03		
c. Other	03	04		
IV. Wetlands	04	01		
a. Loss	04	02		
b. Degradation	04	03		
c. Other	04	04		
V. Prime, Unique, Important Farmland	05	01		
a. Conversion to irreversible uses	05	02		
b. Overlying, strippable, mineral resources	05	03		
c. Other	05	04		

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Items of Concern	Concern/ Problem Codes		Degree of Concern Major	Minor
VI. Water Management	06	01		
a. Irrigation	06	02		
1. Water availability	06	03		
2. Efficiency of systems	06	04		
3. Efficiency of application	06	05		
4. Erosion	06	06		
5. Costs	06	07		
6. Use of municipal or industrial effluent	06	08		
7. Depletion of ground water	06	09		
8. Degradation of water quality	06	10		
9. Degradation of aquatic habitat	06	11		
10. Salinity	06	12		
11. Other	06	13		
12. Impact on fish and wildlife	06	15		
13. Maintenance of facilities	06	16		
VII. Water Supply	07	01		
a. Increased demand	07	02		
b. Sediment and related pollutants	07	03		
c. Lack of water	07	04		
d. Depletion of ground water	07	05		
e. Surface storage	07	06		
f. Other	07	07		
VIII. Soil Erosion	08	01		
a. Water erosion	08	02		
1. Cropland	08	03		
2. Pastureland	08	04		
3. Forestland	08	05		
4. Rangeland	08	06		
5. Urban land	08	07		
6. Mined land	08	08		
7. Effect on productivity	08	09		
8. Sediment damages	08	10		
9. Shore erosion	08	11		
10. Impacts on water quality	08	12		
11. Costs of control	08	13		
12. Effects on aquatic habitat	08	14		
13. Scouring on floodplain	08	15		
14. Deposition on floodplain	08	16		
15. Other	08	17		

APPENDIX E

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